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EXAMINER	
MARANDI, JAMES R	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/675,869	CAGNO ET AL.	
	Examiner	Art Unit	
	JAMES R. MARANDI	2421	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 November 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to applicant's amendment filed on 11/18/2010. Claims 1-7, and 9- 30 are presently pending. Claim 8 has been canceled.

   1.1. Rejection of claims 17 -24 under 35 U.S.C § 101 is withdrawn, since independent claim 17 has been amended to recite non-transitory computer readable medium.

Response to Arguments

2. Applicant's arguments filed on 11/18/2010, with respect to claims 1-7 and 9-30, have been fully considered but they are not persuasive.

   2.1. With respect to claims 1, 9, 17, and 25 applicant argues that "***In each instance (referring to Fig. 1), the GBIC card is depicted as a first subassembly portion of a second subassembly, where the second subassembly is INTERNAL to an assembly. ... Needless to say, both GBIC cards 24a and 24b are internal to different host bus adapters, which in turn are internal to one host computer***" (Page 13 of Remarks, 2nd paragraph). Applicant uses this logic to conclude that

DeRolf does not teach that "***the transponder is disposed on a connector disposed on an end of a communication link, as required by Applicants' claims 1, 9, 17, and 25***" (Page 14 of Remarks, 2^{nd} paragraph)

Examiner disagrees. Applicant is purely relying on Fig. 1's depiction in concluding that the GBIC transponders are purely internal to host bus adapters (HBA) which is internal to the host computer. This is contrary to DeRolf's disclosure, as presented in ¶ [15]. First, as disclosed, GBICs 24a-l comprise individually replaceable components, or field Replaceable Units (FRUs), so they are not as <u>internal</u> as the applicant has concluded. Second, DeRolf further discloses that the path (communication link) refers to all components providing a connection from a host to a storage device (¶ [16]); therefore, the GBIC is disposed at the end of each communication link (path).

DeRolf's communication links 12 connect two nodes together, for example, in Fig. 1, communication link 12a connects nodes 2 and 10, as such said communication link has a length (connection between two nodes) and an end (termination points at each end); see ¶¶ [4], [15], and [16].

In particular, ¶ [16] discloses a path (communication link) comprising of components which read on applicant's amended claim. For example,

communication link 14b to 16a has a length (12b), an end (16a, 14b), the end having a connector (GBIC) through the interfaces 14b and 16a.

As analyzed for claim 1, in the Office Action of 8/18/2010, DeRolf discloses interconnecting said first communication link control card and said second communication link control card using said communication link (devices 6 and 8 are connected to the FC-AL network via control cards 24l and 24d)**; a connector disposed on said end** (GBIC connection), **and a transponder disposed on said connector** (GBIC card).

DeRolf is silent on transponder **includes a memory comprising information including the length.**

However, Gilliland discloses using GBIC transponders on communication **link** of Fiber Channel networks (Col. 1, lines 10-13)**,** wherein said transponder **includes a memory comprising information** (EEPROM, Col. 1, lines 48- 60) **including said length (**Gilliland disclosure incorporates GBIC SFF-8053, GBIC Rev. 5.5 September 27, 2000, copy of which was provided by the applicant in the IDS of 9/29/2003. SFF-8053 further details the information/ tables outlining detailed information about the type of facilities, length, vendor, bit rates, etc. (see Appendix D. pages 43-52). For example, table D.1, Base ID fields indicating link length, vendor, and bit rate max and min).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf with Gilliland's invention in order to provide for flexibility, reduce hardware, and facilitate interfacing multiple devices (as also recognized by Gilliland Col. 2, lines 35-46).

GBIC transponder of the system of DeRolf and Gilliland though powered by the host (not including its own power source, and having passive circuitry as per SFF-8053, page 8, section 4.2) is not a **passive** transponder as defined by applicant (powered by RF source, page 6 of disclosure, lines 5-7).

However, Hitag provides a **passive** transponder (powered by RF, page 2, col. 2, 1st and 2nd paragraphs), comprising an EEPROM memory (Page 2, Col. 1, General Description), where the reader and transponder are enabled to securely communicate and identify each other (Page 2, Col. 2, 3rd paragraph), in a contactless fashion (Page 2, Col.2, Features).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf and Gilliland with Hitag's disclosure in order to replace the pin connectors (20 of them) of a GBIC with a contactless, easy to connect, contactless interface.

As to wirelessly reading the information from the memory, as per Office Action of 8/18/2010, the system of DeRolf and Gilliland is not explicit in the use of wireless (contactless) reading of the information in the memory.

Hitag further discloses a contactless application for transmitting/ receiving data between transponder and the reader (reading information from the memory). As disclosed (page 2, 2nd Col., 5th paragraph), “absorption modulation is used to transmit data from the transponder to the reader. The transponder absorbs the magnetic field which hence modulates the current in the reader antenna”.

it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf and Gilliland with Hitag’s invention in order to overcome the complexity of actual connection (pin-to-pin) by reading the information wirelessly (without physical contact and through magnetic fields).

2.2. Applicant further alleges that “***neither DeRolf, nor Gilliland, nor hitag, nor Cecchi, singly or in combination, teach adjusting a pre-emphasis level of a signal provided by a communication link…”*** (Page 14 of Remarks, 3rd paragraph).

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without

specifically pointing out how the language of the claims patentably distinguishes them from the references. In particular, as presented in the Office Action of 8/18/2010, Cecchi discloses adjusting **pre-emphasis** of the signal based on cable characteristics, such as length, in order to compensate and account for attenuation and signal degradation on a cable (see abstract, Col. 2, lines 43- 67).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf, Gilliland, and hitag with Cecchi's invention, in order to adjust signal characteristics, through pre-emphasis, to account for signal attenuation due to cable length.

2.3. With respect to dependent claims 2-7, applicant relies on the same arguments as for independent claim 1 which has been addressed above.

2.4. With respect to dependent claims 10-16, applicant relies on the same arguments as for independent claim 9 which has been addressed above.

2.5. With respect to dependent claims 18-24, applicant relies on the same arguments as for independent claim 17 which has been addressed above.

2.6. With respect to dependent claims 26-30, applicant relies on the same arguments as for independent claim 25 which has been addressed above.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1- 7, and 9- 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeRolf et al., USPGPUB 2002/0104039 (hereinafter "DeRolf") in view of Gilliland et al., USPN 6,554,492 (hereinafter "Gilliland"), further in view of HT1DC20S30, Philips HITAG1 stick transponder, Sep. 24, 2001 (hereinafter "hitag"), in further view of Cecchi et al., USPN 6,466,626 (hereinafter "Cecchi").Hitag reference was provided by applicant in IDS of 9/29/2003.

4.1. Regarding claim 1, DeRolf discloses **a method to provide a signal via a communication link** (signaling on Fiber Channel communication links 12 in the SAN network of Fig. 1)**, comprising the steps of:**

providing an information storage and retrieval system (SAN of Fig. 1) **comprising a controller** (SAN networks comprise of storage devices, which in

turn comprise disk drives and controllers- see ¶ [15], 10th line from the end of the paragraph-)**, device adapter interconnected to said controller and comprising a first communication link control card** (for example GBIC 24d connected to the interface 16b)**, a first RAID** (storage device of SAN network of Fig. 1, as described in ¶¶ [4], and [15]) **rank** (RAID rank is an association of disk drives, each rank contains n+1 disk drives with data striped across n data disks. See Sahai's "Performance Aspects of RAID Architecture", page 323, last 8 lines before Section 4.1) **comprising a first array of disk drives** (for example storage Device 6)**, a second RAID rank comprising a second array of disk drives** (Storage device 8)**, a communication loop** (Fiber Channel Arbitrated Loop, FC-AL, comprising of devices 6, 4, 10, 8, and 2, as also explained in ¶¶ [4] and [16]) **comprising a second communication link control card** (24l of storage device 8) **wherein said communication loop interconnects said first RAID rank and said second RAID rank** (6 and 8 are connected via FC-AL loop)**;**

providing a communication link comprising a length, an end, a connector disposed on said end, and a transponder disposed on said connector (DeRolf's communication links 12 connect two nodes together, for example, in Fig. 1, communication link 12a connects nodes 2 and 10, as such said communication link has **a length** (connection between two nodes) and **an end** (termination points at each end); see ¶¶ [4], [15], and [16]. In particular, ¶ [16] discloses a path (communication link) comprising of components which read

on applicant's amended claim. For example, communication link 14b to 16a has a length (12b), an end (16a, 14b), the end having a connector (GBIC connection) through the interfaces 14b and 16a, where GBIC a transponder)**;**

interconnecting said first communication link control card and said second communication link control card using said communication link (devices 6 and 8 are connected to the FC-AL network via control cards 24l and 24d)**;**

DeRolf is silent on wherein said transponder **includes a memory comprising information including said length;**

reading said information from said memory by either said first communication link control card or by said second communication link control card; and

adjusting said signal based upon said information.

Gilliland discloses using GBIC transponders on communication link of Fiber Channel networks (Col. 1, lines 10-13)**,** wherein said transponder **includes a memory comprising information** (EEPROM, Col. 1, lines 48- 60) **including said length;** Gilliland disclosure incorporates GBIC SFF-8053, GBIC Rev. 5.5 September 27, 2000, copy of which was provided by the applicant in the IDS of 9/29/2003. SFF-8053 further details the information/ tables outlining detailed information about the type of facilities, length, vendor, bit rates, etc. (see

Appendix D. pages 43-52). For example, table D.1, Base ID fields indicating link length, vendor, and bit rate max and min.**;**

reading said information from said memory by either said first communication link control card or by said second communication link control card (information is accessed/read from EEPROM, as per GBIC specification, Col. 1, lines 48- 51)**; and**

adjusting said signal based upon said information (by reading the specifications, Col. 1, lines 27- 30, the host system identifies the type of GBIC and adjust signals accordingly to accommodate various facilities/links, Col. 1, lines 10- 14).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf with Gilliland's invention in order to provide for flexibility, reduce hardware, and facilitate interfacing multiple devices (as also recognized by Gilliland Col. 2, lines 35-46).

GBIC transponder of the system of DeRolf and Gilliland though powered by the host (not including its own power source, and having passive circuitry as per SFF-8053, page 8, section 4.2) is not a **passive** transponder as defined by applicant (powered by RF source, page 6 of disclosure, lines 5-7). Furthermore,

the system of DeRolf and Gilliland is silent on **wirelessly** reading said information from said memory.

However, hitag provides a **passive** transponder (powered by RF, page 2, col. 2, 1^{st} and 2^{nd} paragraphs), comprising an EEPROM memory (Page 2, Col. 1, General Description), where the reader and transponder are enabled to securely communicate and identify each other (Page 2, Col. 2, 3rd paragraph), in a contactless fashion (Page 2, Col.2, Features). Hitag further discloses a contactless **(wireless)** application for transmitting/ receiving data between transponder and the reader (reading information from the memory). As disclosed (page 2, 2nd Col., 5th paragraph), "absorption modulation is used to transmit data from the transponder to the reader. The transponder absorbs the magnetic field **(wirelessly)** which hence modulates the current in the reader antenna".

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf and Gilliland with hitag's disclosure in order to overcome the complexity of actual connection (pin-to-pin, 20 connectors!) of a GBIC with a contactless, easy to connect, contactless interface by reading the information wirelessly (without physical contact and through magnetic fields).

The system of DeRolf, Gilliland, and hitag is not explicit in disclosing adjusting **pre-emphasis** level of the signal.

However, Cecchi discloses adjusting **pre-emphasis** level of the signal based on cable characteristics, such as length, in order to compensate and account for attenuation and signal degradation on a cable (see abstract, Col. 2, lines 43- 67).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf, Gilliland, and hitag with Cecchi's invention, in order to adjust signal characteristics, through pre-emphasis, to account for signal attenuation due to cable length.

4.1.1. Regarding claim 2, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said first communication link control card comprises a reading device** (GBIC has EEPROM memory as disclosed by Gilliland)**; interconnecting said communication link to said communication link control card** (communication link connecting to the host system via GBIC)**, such that said reading device** (in host system, per Gilliland Col. 1, lines 27-30) **is capable of reading said information from said memory** (EEPROM memory, per Gilliland Col. 1, lines 48- 51).

4.1.2. Regarding claim 3, the system of DeRolf, Gilliland, and hitag discloses **wherein said communication link comprises a length** (SFF-8053, Table D.1, link lengths supported, 8 through 12th rows in the table, as disclosed by Gilliland's Col. 1, lines 20-25)**, and wherein said passive transponder comprises a length data field** (the data field as reflected in Table D.1 is stored in EEPROM and read from the memory by the host reader)**; further comprising the steps of:**

encoding said length in said length data field (data fields as shown in Table D.1 are encoded in EEPROM)**;**

reading said length from said length data field (as discussed for claim 1, the data is read from the EEPROM by the host reader)**;**

adjusting the characteristics **of said signal based upon said length** (as different lengths require different signaling, as disclosed by Gilliland, Col. 1, lines 27-31 and 44- 47, the signal is adjusted accordingly)..

The system of DeRolf, Gilliland, and hitag is not explicit in disclosing adjusting **pre-emphasis** of the signal.

However, Cecchi discloses adjusting **pre-emphasis** of the signal based on cable characteristics, such as length, in order to compensate and account for attenuation and signal degradation on a cable (see abstract, Col. 2, lines 43- 67).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf, Gilliland, and hitag with Cecchi's invention, in order to adjust signal characteristics, through pre-emphasis, to account for signal attenuation due to cable length.

4.1.3. Regarding claim 4, the system of DeRolf, Gilliland, hitag, and Cecchi discloses (see Section 5.1 of SFF-8053 specification, page 11) **wherein said signal comprises an actual throughput rate and wherein said communication link comprises a nominal throughput rate, and wherein said passive transponder comprises a throughput data field, further comprising the steps of:**

encoding said nominal throughput rate in said throughput data field (as shown in Table D.1, 6th row, Page 44 of the SFF-8053 specification)**;**

reading said nominal throughput rate from said throughput data field (the fields are encoded on the EEPROM and read by the host reader)**;**

determining if said nominal throughput rate is greater than or equal to said actual throughput rate (error detection process as described next)**;**

operative if said nominal throughput rate is not greater than or equal to said actual throughput rate, generating an error message. As disclosed in section 5.1 the transponder (GBIC) is driven from the host board with signals TX_DAT. The output from transponder (GBIC) to the host board is designated as RX_DAT. Any loss of signal, where the signal is not able to achieve the specified Bit Error Rate (BER), therefore throughput lower than an expected threshold, triggers RX_LOS. Signal deterioration at receiver and transmitter are monitored and acted upon through TX_FAULT and RX_LOS. The system of Gilliland and hitag discloses that in such situation, the signals with high error rate will not be utilized. However, Gilliland and hitag is not explicit in issuing an error message (though error detection and management is further disclosed in sections E.3 and E.4 (page 54). Official notice is taken that it is well known in the art to issue an explicit error message upon encountering a fault, in order to indicate to the user and/or network administrator that the system is not performing as desired.

4.1.4. Regarding claim 5, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said communication link comprises a cable type** (communication link is a physical layer with identified types, for example copper or fiber connecting to the transponder/GBIC. Cable types are identified and reflected in Table D.1 of SFF-8053 standard)**, and wherein**

said passive transponder comprises a cable identifier data field (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, rows 8-12)**, further comprising the steps of:**

encoding said cable type in said cable identifier data field (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, rows 8-12)**;**

reading said cable type from said cable identifier data field (the data on EEPROM is read upon communication of transponder and the host reader)**,**

providing a signal comprising said cable type (as described in claim 1, the signal characteristics are adjusted according to the data reflected in the EEPROM).

4.1.5. Regarding claim 6, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **the step of detecting the interconnection of said communication link to said communication link control card** (Gilliland: Col. 1, lines 28- 30).

4.1.6. Regarding claim 7, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said communication link comprises a version number** (Table D.1 of page 44 of SFF_8053 standard, row 18)**, and**

wherein said passive transponder comprises a version identifier data field (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, row 18)**, further comprising the steps of:**

encoding said version number in said version identifier data field (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, row 18)**;**

reading said version number from said version identifier data field (the data on EEPROM is read upon communication of transponder and the host reader)**, and**

providing a signal comprising said version number (as described in claim 1, the signal characteristics are adjusted according to the data reflected in the EEPROM).

4.2. Regarding claim 9, DeRolf discloses **an article of manufacture** (as shown in the SAN network of Fig. 1)**, comprising a controller** (SAN networks comprise of storage devices, which in turn comprise disk drives and controllers- see ¶ [15], 10th line from the end of the paragraph-)**, device adapter interconnected to said controller and comprising a first communication link control card** (for example GBIC 24d connected to the interface 16b)**, a first RAID** (storage device of SAN network of Fig. 1, as described in ¶¶ [4], and [15]) **rank** (RAID rank is an association of disk drives, each rank contains n+1 disk drives with

data striped across n data disks. See Sahai's "Performance Aspects of RAID Architecture", page 323, last 8 lines before Section 4.1) **comprising a first array of disk drives** (for example storage Device 6)**, a second RAID rank comprising a second array of disk drives** (Storage device 8)**, a communication loop** (Fiber Channel Arbitrated Loop, FC-AL, comprising of devices 6, 4, 10, 8, and 2, as also explained in ¶¶ [4] and [16]) **comprising a second communication link control card** (24l of storage device 8) **wherein said communication loop interconnects said first RAID rank and said second RAID rank** (6 and 8 are connected via FC-AL loop)**, and a computer useable medium having computer readable program code disposed therein to provide a signal via a communication link, wherein said communication link comprises a length, an end, a connector disposed on said end, and a transponder disposed on said connector** (DeRolf's communication links 12 connect two nodes together, for example, in Fig. 1, communication link 12a connects nodes 2 and 10, as such said communication link has **a length** (connection between two nodes) and **an end** (termination points at each end); see ¶¶ [4], [15], and [16]. In particular, ¶ [16] discloses a path (communication link) comprising of components which read on applicant's amended claim. For example, communication link 14b to 16a has a length (12b), an end (16a, 14b), the end having a connector (GBIC connection) through the interfaces 14b and 16a, where GBIC a transponder)**;**

DeRolf is silent on wherein said transponder **includes a memory comprising information including said length;**

reading said information from said memory by either said first communication link control card or by said second communication link control card; and

adjusting said signal based upon said information.

Gilliland discloses using GBIC transponders on communication link of Fiber Channel networks (Col. 1, lines 10-13)**,** wherein said transponder **includes a memory comprising information** (EEPROM, Col. 1, lines 48- 60) **including said length;** Gilliland disclosure incorporates GBIC SFF-8053, GBIC Rev. 5.5 September 27, 2000, copy of which was provided by the applicant in the IDS of 9/29/2003. SFF-8053 further details the information/ tables outlining detailed information about the type of facilities, length, vendor, bit rates, etc. (see Appendix D. pages 43-52). For example, table D.1, Base ID fields indicating link length, vendor, and bit rate max and min.**;**

reading said information from said memory by either said first communication link control card or by said second communication link control card (information is accessed/read from EEPROM, as per GBIC specification, Col. 1, lines 48- 51)**; and**

adjusting said signal based upon said information (by reading the specifications, Col. 1, lines 27- 30, the host system identifies the type of GBIC and adjust signals accordingly to accommodate various facilities/links, Col. 1, lines 10- 14).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf with Gilliland's invention in order to provide for flexibility, reduce hardware, and facilitate interfacing multiple devices (as also recognized by Gilliland Col. 2, lines 35-46).

GBIC transponder of the system of DeRolf and Gilliland though powered by the host (not including its own power source, and having passive circuitry as per SFF-8053, page 8, section 4.2) is not a **passive** transponder as defined by applicant (powered by RF source, page 6 of disclosure, lines 5-7). Furthermore, the system of DeRolf and Gilliland is silent on **wirelessly** reading said information from said memory.

However, hitag provides a **passive** transponder (powered by RF, page 2, col. 2, 1st and 2nd paragraphs), comprising an EEPROM memory (Page 2, Col. 1, General Description), where the reader and transponder are enabled to securely communicate and identify each other (Page 2, Col. 2, 3rd paragraph), in a contactless fashion (Page 2, Col.2, Features). Hitag further discloses a

contactless **(wireless)** application for transmitting/ receiving data between transponder and the reader (reading information from the memory). As disclosed (page 2, 2nd Col., 5th paragraph), “absorption modulation is used to transmit data from the transponder to the reader. The transponder absorbs the magnetic field **(wirelessly)** which hence modulates the current in the reader antenna”.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf and Gilliland with hitag’s disclosure in order to overcome the complexity of actual connection (pin-to-pin, 20 connectors!) of a GBIC with a contactless, easy to connect, contactless interface by reading the information wirelessly (without physical contact and through magnetic fields).

The system of DeRolf, Gilliland, and hitag is not explicit in disclosing adjusting **pre-emphasis** level of the signal.

However, Cecchi discloses adjusting **pre-emphasis** level of the signal based on cable characteristics, such as length, in order to compensate and account for attenuation and signal degradation on a cable (see abstract, Col. 2, lines 43- 67).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf, Gilliland, and hitag with

Cecchi's invention, in order to adjust signal characteristics, through pre-emphasis, to account for signal attenuation due to cable length.

4.2.1. Regarding claim 10, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said first communication link control card** (e.g. DeRolf's GBIC 24d) **comprises a reading device** (connection to host system reader)**, where in said communication link is interconnected to said communication link control card** (communication link connecting to the host system via GBIC) **such that said reading device** (per Gilliland, Col. 1, lines 27-30) **is capable of reading said information from said one or more data fields** (per Gilliland EEPROM memory, Col. 1, lines 48- 51; Data fields as reflected in Table D.1 of SFF-8053).

4.2.2. Regarding claim 11, the system of DeRolf, Gilliland and hitag discloses **wherein said communication link comprises a length** (SFF-8053, Table D.1, link lengths supported, 8 through 12th rows in the table, as disclosed by Gilliland's Col. 1, lines 20-25)**, and wherein said passive transponder comprises a length data field** (the data field as reflected in Table D.1 is stored in EEPROM and read from the memory by the host reader)**, and wherein said length is encoded in said length data field** (data fields as

shown in Table D.1 are encoded in EEPROM)**, said computer readable program code further comprising a series of computer readable program steps to effect**:

reading said length from said length data field (as discussed for claim 1, the data is read from the EEPROM by the host reader)**;**

adjusting the characteristics **of said signal based upon said length** (as different lengths require different signaling, as disclosed by Gilliland, Col. 1, lines 27-31 and 44- 47, the signal is adjusted accordingly).

The system of DeRolf, Gilliland and hitag is not explicit in disclosing adjusting **pre-emphasis** of the signal.

However, Cecchi discloses adjusting **pre-emphasis** of the signal based on cable characteristics, such as length, in order to compensate and account for attenuation and signal degradation on a cable (see abstract, Col. 2, lines 43- 67).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf, Gilliland, and hitag with Cecchi's invention, in order to adjust signal characteristics, through pre-emphasis, to account for signal attenuation due to cable length.

4.2.3. Regarding claim 12, the system of DeRolf, Gilliland, hitag, and Cecchi discloses (Section 5.1 of SFF-8053 specification, page 11) **wherein said signal comprises an actual throughput rate and wherein said communication link comprises a nominal throughput rate, and wherein said passive transponder comprises a throughput data field**(as shown in Table D.1, 6th row, Page 44 of the SFF-8053 specification)**, said computer readable program code further comprising a series of computer readable program steps to effect:**

reading said nominal throughput rate from said throughput data field (the fields are encoded on the EEPROM and read by the host reader)**;**

determining if said nominal throughput rate is greater than or equal to said actual throughput rate (error detection process as described next)**;**

operative if said nominal throughput rate is not greater than or equal to said actual throughput rate, generating an error message. As disclosed in section 5.1 the transponder (GBIC) is driven from the host board with signals TX_DAT. The output from transponder (GBIC) to the host board is designated as RX_DAT. Any loss of signal, where the signal is not able to achieve the specified Bit Error Rate (BER), therefore throughput lower than an expected threshold, triggers RX_LOS. Signal deterioration at receiver and transmitter are monitored and acted upon through TX_FAULT and RX_LOS. The system of Gilliland and hitag discloses that in such situation,

the signals with high error rate will not be utilized. However, Gilliland and hitag is not explicit in issuing an error message (though error detection and management is further disclosed in sections E.3 and E.4 (page 54). Official notice is taken that it is well known in the art to issue an explicit error message upon encountering a fault, in order to indicate to the user and/or network administrator that the system is not performing as desired.

4.2.4. Regarding claim 13, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said communication link comprises a cable type** (communication link is a physical layer with identified types, for example copper or fiber connecting to the transponder/GBIC. Cable types are identified and reflected in Table D.1 of SFF-8053 standard)**, and wherein said passive transponder comprises a cable identifier data field** (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, rows 8-12)**, and wherein said cable type is encoded in said cable identifier data field** (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, rows 8-12)**, said computer readable program code further comprising a series of computer readable program steps to effect:**

reading said cable type from said cable identifier data field (the data on EEPROM is read upon communication of transponder and the host reader)**,**

providing a signal comprising said cable type (as described in claim 1, the signal characteristics are adjusted according to the data reflected in the EEPROM).

4.2.5. Regarding claim 14, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **steps to effect detecting the interconnection of said communication link to said communication link control card** (Gilliland: Col. 1, lines 28- 30).

4.2.6. Regarding claim 15, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said communication link comprises a version number** (Table D.1 of page 44 of SFF_8053 standard, row 18)**, and wherein said passive transponder comprises a version identifier data field** (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, row 18)**, and wherein said version number is encoded in said version identifier data field** (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, row 18)**, said computer readable program code further comprising a series of computer readable program steps to effect:**

reading said version number from said version identifier data field (the data on EEPROM is read upon communication of transponder and the host reader)**, and**

providing a signal comprising said version number (as described in claim 1, the signal characteristics are adjusted according to the data reflected in the EEPROM).

4.2.7. Regarding claim 16, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **steps to effect detecting the interconnection of said communication link to said communication link control card** (Gilliland: Col. 1, lines 28- 30).

4.3. Regarding claim 17, DeRolf discloses **a computer program product encoded in a non-transitory information storage medium and usable with a programmable computer processor to provide a signal via a communication link** (signaling on Fiber Channel communication links 12 in the SAN network of Fig. 1)**, wherein said computer program product is disposed in an information storage and retrieval system** (SAN of Fig. 1) **comprising a device adapter** (SAN networks comprise of storage devices, which in turn comprise disk drives and controllers/ adaptors- see ¶ [15], 10th line from the end of the paragraph-)**, interconnected to said programmable computer processor and comprising a first communication link control card** (for

example GBIC 24d connected to the interface 16b)**, a first RAID** (storage device of SAN network of Fig. 1, as described in ¶¶ [4], and [15]) **rank** (RAID rank is an association of disk drives, each rank contains n+1 disk drives with data striped across n data disks. See Sahai's "Performance Aspects of RAID Architecture", page 323, last 8 lines before Section 4.1) **comprising a first array of disk drives** (for example storage Device 6)**, a second RAID rank comprising a second array of disk drives** (Storage device 8)**, a communication loop** (Fiber Channel Arbitrated Loop, FC-AL, comprising of devices 6, 4, 10, 8, and 2, as also explained in ¶¶ [4] and [16]) **comprising a second communication link control card** (24l of storage device 8) **wherein said communication loop interconnects said first RAID rank and said second RAID rank** (6 and 8 are connected via FC-AL loop)**; to provide a signal via a communication link (**interconnecting said first communication link control card and said second communication link control card using said communication link; devices 6 and 8 are connected to the FC-AL network via control cards 24l and 24d)**; wherein said communication link** comprises **a length, an end, a connector disposed on said end, and a transponder disposed on said connector** (DeRolf's communication links 12 connect two nodes together, for example, in Fig. 1, communication link 12a connects nodes 2 and 10, as such said communication link has **a length** (connection between two nodes) and **an end** (termination points at each end); see ¶¶ [4], [15], and [16]. In particular, ¶ [16] discloses a path (communication link) comprising of components which read on applicant's

amended claim. For example, communication link 14b to 16a has a length (12b), an end (16a, 14b), the end having a connector (GBIC connection) through the interfaces 14b and 16a, where GBIC a transponder)**;**

DeRolf is silent on wherein said transponder **includes a memory comprising information including said length;**

reading said information from said memory by either said first communication link control card or by said second communication link control card; and

adjusting said signal based upon said information.

Gilliland discloses using GBIC transponders on communication link of Fiber Channel networks (Col. 1, lines 10-13)**,** wherein said transponder **includes a memory comprising information** (EEPROM, Col. 1, lines 48- 60) **including said length;** Gilliland disclosure incorporates GBIC SFF-8053, GBIC Rev. 5.5 September 27, 2000, copy of which was provided by the applicant in the IDS of 9/29/2003. SFF-8053 further details the information/ tables outlining detailed information about the type of facilities, length, vendor, bit rates, etc. (see Appendix D. pages 43-52). For example, table D.1, Base ID fields indicating link length, vendor, and bit rate max and min.**;**

reading said information from said memory by either said first communication link control card or by said second communication link

control card (information is accessed/read from EEPROM, as per GBIC specification, Col. 1, lines 48- 51)**; and**

adjusting said signal based upon said information (by reading the specifications, Col. 1, lines 27- 30, the host system identifies the type of GBIC and adjust signals accordingly to accommodate various facilities/links, Col. 1, lines 10- 14).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf with Gilliland's invention in order to provide for flexibility, reduce hardware, and facilitate interfacing multiple devices (as also recognized by Gilliland Col. 2, lines 35-46).

GBIC transponder of the system of DeRolf and Gilliland though powered by the host (not including its own power source, and having passive circuitry as per SFF-8053, page 8, section 4.2) is not a **passive** transponder as defined by applicant (powered by RF source, page 6 of disclosure, lines 5-7). Furthermore, the system of DeRolf and Gilliland is silent on **wirelessly** reading said information from said memory.

However, hitag provides a **passive** transponder (powered by RF, page 2, col. 2, 1st and 2nd paragraphs), comprising an EEPROM memory (Page 2, Col. 1, General Description), where the reader and transponder are enabled to securely

communicate and identify each other (Page 2, Col. 2, 3rd paragraph), in a contactless fashion (Page 2, Col.2, Features). Hitag further discloses a contactless **(wireless)** application for transmitting/ receiving data between transponder and the reader (reading information from the memory). As disclosed (page 2, 2nd Col., 5th paragraph), “absorption modulation is used to transmit data from the transponder to the reader. The transponder absorbs the magnetic field **(wirelessly)** which hence modulates the current in the reader antenna”.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf and Gilliland with hitag’s disclosure in order to overcome the complexity of actual connection (pin-to-pin, 20 connectors!) of a GBIC with a contactless, easy to connect, contactless interface by reading the information wirelessly (without physical contact and through magnetic fields).

The system of DeRolf, Gilliland, and hitag is not explicit in disclosing adjusting **pre-emphasis** level of the signal.

However, Cecchi discloses adjusting **pre-emphasis** level of the signal based on cable characteristics, such as length, in order to compensate and account for attenuation and signal degradation on a cable (see abstract, Col. 2, lines 43- 67).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf, Gilliland, and hitag with Cecchi's invention, in order to adjust signal characteristics, through pre-emphasis, to account for signal attenuation due to cable length.

4.3.1. Regarding claim 18, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said first communication link card** (communication link connecting to the host system via GBIC) **comprising a reading device** (in host system, Col. 1, lines 27-30) **such that said reading device is capable of reading said information from said memory** (EEPROM memory, Col. 1, lines 48- 51).

4.3.2. Regarding claim 19, the system of DeRolf, Gilliland, and hitag discloses **wherein said communication link comprises a length** (SFF-8053, Table D.1, link lengths supported, 8 through 12^{th} rows in the table, as disclosed by Gilliland's Col. 1, lines 20-25)**, and wherein said passive transponder comprises a length data field** (the data field as reflected in Table D.1 is stored in EEPROM and read from the memory by the host reader)**, and wherein said length is encoded in said length data field** (data fields as shown in Table D.1 are encoded in EEPROM) **further comprising:**

computer readable program code which causes said programmable computer processor to read said length from said

length data field (as discussed for claim 1, the data is read from the EEPROM by the host reader)**;**

computer readable program code which causes said programmable computer processor to adjust the characteristics **of said signal based upon said length** (as different lengths require different signaling, as disclosed by Gilliland, Col. 1, lines 27-31 and 44- 47, the signal is adjusted accordingly).

The system of DeRolf, Gilliland, and hitag is not explicit in disclosing adjusting **pre-emphasis** of the signal.

However, Cecchi discloses adjusting **pre-emphasis** of the signal based on cable characteristics, such as length, in order to compensate and account for attenuation and signal degradation on a cable (see abstract, Col. 2, lines 43- 67).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf, Gilliland, and hitag with Cecchi's invention, in order to adjust signal characteristics, through pre-emphasis, to account for signal attenuation due to cable length.

4.3.3. Regarding claim 20, the system of DeRolf, Gilliland, hitag, and Cecchi discloses (Section 5.1 of SFF-8053 specification, page 11) **wherein said signal comprises an actual throughput rate and wherein said communication link comprises a nominal throughput rate, and wherein said passive transponder comprises a throughput data field**, **and wherein said nominal throughput rate is encoded in said throughput data field** (as shown in Table D.1, 6th row, Page 44 of the SFF-8053 specification)**, further comprising:**

computer readable program code which causes said programmable computer processor to read said nominal throughput rate from said throughput data field (the fields are encoded on the EEPROM and read by the host reader)**;**

computer readable program code which causes said programmable computer processor to determine if said nominal throughput rate is greater than or equal to said actual throughput rate (error detection process as described next)**;**

computer readable program code which, if said nominal throughput rate is not greater than or equal to said actual throughput rate, causes said programmable computer processor to generate an error message. As disclosed in section 5.1 the transponder (GBIC) is driven from the host board with signals TX_DAT. The output from transponder (GBIC) to the host board is designated as RX_DAT. Any loss of

signal, where the signal is not able to achieve the specified Bit Error Rate (BER), therefore throughput lower than an expected threshold, triggers RX_LOS. Signal deterioration at receiver and transmitter are monitored and acted upon through TX_FAULT and RX_LOS. The system of Gilliland and hitag discloses that in such situation, the signals with high error rate will not be utilized. However, Gilliland and hitag is not explicit in issuing an error message (though error detection and management is further disclosed in sections E.3 and E.4 (page 54). Official notice is taken that it is well known in the art to issue an explicit error message upon encountering a fault, in order to indicate to the user and/or network administrator that the system is not performing as desired.

4.3.4. Regarding claim 21, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said communication link comprises a cable type** (communication link is a physical layer with identified types, for example copper or fiber connecting to the transponder/GBIC. Cable types are identified and reflected in Table D.1 of SFF-8053 standard)**, and wherein said passive transponder comprises a cable identifier data field** (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, rows 8-12)**, and wherein said cable type is encoded in said cable identifier data field** (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, rows 8-12)**, further comprising:**

computer readable program code which causes said programmable computer processor to read said cable type from said cable identifier data field (the data on EEPROM is read upon communication of transponder and the host reader)**,**

computer readable program code which causes said programmable computer processor to provide a signal comprising said cable type (as described in claim 1, the signal characteristics are adjusted according to the data reflected in the EEPROM).

4.3.5. Regarding claim 22, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **computer readable program code which causes said programmable computer processor to detect the interconnection of said communication link to said communication link control card** (Gilliland: Col. 1, lines 28- 30).

4.3.6. Regarding claim 23, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said communication link comprises a version number** (Table D.1 of page 44 of SFF_8053 standard, row 18)**, and wherein said passive transponder comprises a version identifier data field** (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, row 18)**, and wherein said version number is encoded in said**

version identifier data field (stored in EEPROM as per Table D.1 of page 44 of SFF_8053 standard, row 18)**, further comprising:**

computer readable program code which causes said programmable computer processor to read said version number from said version identifier data field (the data on EEPROM is read upon communication of transponder and the host reader)**, and**

computer readable program code which causes said programmable computer processor to provide a signal comprising said version number (as described in claim 1, the signal characteristics are adjusted according to the data reflected in the EEPROM).

4.3.7. Regarding claim 24, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **computer readable program code which causes said programmable computer processor to detect the interconnection of said communication link to said communication link control card** (Gilliland: Col. 1, lines 28- 30).

4.4. Regarding claim 25, DeRolf discloses **a data storage and retrieval system** (SAN network of Fig. 1)**, comprising:**

a controller (SAN networks comprise of storage devices, which in turn comprise disk drives and controllers- see ¶ [15], 10th line from the end of the paragraph-)**,**

a device adapter interconnected to said controller and comprising a first communication link control card comprising a first reading device (for example GBIC 24d connected to the interface 16b)**,**

a first RAID (storage device of SAN network of Fig. 1, as described in ¶¶ [4], and [15]) **rank** (RAID rank is an association of disk drives, each rank contains n+1 disk drives with data striped across n data disks. See Sahai's "Performance Aspects of RAID Architecture", page 323, last 8 lines before Section 4.1) **comprising a first array of disk drives** (for example storage Device 6)**,**

a second RAID rank comprising a second array of disk drives (Storage device 8)**,**

a communication loop (Fiber Channel Arbitrated Loop, FC-AL, comprising of devices 6, 4, 10, 8, and 2, as also explained in ¶¶ [4] and [16]) **comprising a second communication link control card** (24l of storage device 8) **wherein said communication loop interconnects said first RAID rank and said second RAID rank** (6 and 8 are connected via FC-AL loop)**;**

a communication link (devices 6 and 8 are connected to the FC-AL network via control cards 24l and 24d) **comprising a length, an end, a connector disposed on said end, and a transponder disposed on said connector** (DeRolf's communication links 12 connect two nodes together, for example, in Fig. 1, communication link 12a connects nodes 2 and 10, as such said communication link has **a length** (connection between two nodes) and **an end** (termination points at each end); see ¶¶ [4], [15], and [16]. In particular, ¶

[16] discloses a path (communication link) comprising of components which read on applicant's amended claim. For example, communication link 14b to 16a has a length (12b), an end (16a, 14b), the end having a connector (GBIC connection) through the interfaces 14b and 16a, where GBIC a transponder)**;**

wherein said communication link interconnects said first communication link control card and said second communication link control card (devices 6 and 8 are connected to the FC-AL network via control cards 24l and 24d)

DeRolf is silent on wherein said transponder **includes a memory comprising information including said length;**

reading said information from said memory by either said first communication link control card or by said second communication link control card; and

to adjust level of signal provided by said communication link.

Gilliland discloses using GBIC transponders on communication link of Fiber Channel networks (Col. 1, lines 10-13)**,** wherein said transponder **includes a memory comprising information** (EEPROM, Col. 1, lines 48- 60) **including said length;** Gilliland disclosure incorporates GBIC SFF-8053, GBIC Rev. 5.5 September 27, 2000, copy of which was provided by the applicant in the IDS of 9/29/2003. SFF-8053 further details the information/ tables outlining detailed

information about the type of facilities, length, vendor, bit rates, etc. (see Appendix D. pages 43-52). For example, table D.1, Base ID fields indicating link length, vendor, and bit rate max and min.**;**

reading said information from said memory by either said first communication link control card or by said second communication link control card (information is accessed/read from EEPROM, as per GBIC specification, Col. 1, lines 48- 51)**; and**

to adjust level of signal provided by said communication link (by reading the specifications, Col. 1, lines 27- 30, the host system identifies the type of GBIC and adjust signals accordingly to accommodate various facilities/links, Col. 1, lines 10- 14).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf with Gilliland's invention in order to provide for flexibility, reduce hardware, and facilitate interfacing multiple devices (as also recognized by Gilliland Col. 2, lines 35-46).

GBIC transponder of the system of DeRolf and Gilliland though powered by the host (not including its own power source, and having passive circuitry as per SFF-8053, page 8, section 4.2) is not a **passive** transponder as defined by applicant (powered by RF source, page 6 of disclosure, lines 5-7). Furthermore,

the system of DeRolf and Gilliland is silent on **wirelessly** reading said information from said memory.

However, hitag provides a **passive** transponder (powered by RF, page 2, col. 2, 1st and 2nd paragraphs), comprising an EEPROM memory (Page 2, Col. 1, General Description), where the reader and transponder are enabled to securely communicate and identify each other (Page 2, Col. 2, 3rd paragraph), in a contactless fashion (Page 2, Col.2, Features). Hitag further discloses a contactless **(wireless)** application for transmitting/ receiving data between transponder and the reader (reading information from the memory). As disclosed (page 2, 2nd Col., 5th paragraph), “absorption modulation is used to transmit data from the transponder to the reader. The transponder absorbs the magnetic field **(wirelessly)** which hence modulates the current in the reader antenna”.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf and Gilliland with hitag’s disclosure in order to overcome the complexity of actual connection (pin-to-pin, 20 connectors!) of a GBIC with a contactless, easy to connect, contactless interface by reading the information wirelessly (without physical contact and through magnetic fields).

The system of DeRolf, Gilliland, and hitag is not explicit in disclosing adjusting **pre-emphasis** level of the signal.

However, Cecchi discloses adjusting **pre-emphasis** level of the signal based on cable characteristics, such as length, in order to compensate and account for attenuation and signal degradation on a cable (see abstract, Col. 2, lines 43- 67).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of DeRolf, Gilliland, and hitag with Cecchi's invention, in order to adjust signal characteristics, through pre-emphasis, to account for signal attenuation due to cable length.

4.4.1. Regarding claim 26, the system of DeRolf, Gilliland, hitag, and Cecchi discloses:

wherein said communication link (e.g. DeRolf's FC-AL) **interconnects said first communication link control card** (e.g. 24d of 6) **and said second communication link control card** (e.g. 24l of 8)**, such that either said first reading device or said second reading device can read said information from said memory** (information is accessed/read from EEPROM, as per GBIC specification, per Gilliland Col. 1, lines 48- 51).

4.4.2. Regarding claim 27, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said passive transponder comprises a length data field, and wherein said length is encoded in said length data field** (SFF 8253, Table D.1, rows 8-12, show cable length data fields which are encoded in the EEPROM module of the transponder).

4.4.3. Regarding claim 28, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said communication link comprises a fiber channel communication link** (GBIC provides connectivity for fiber channel per Gilliland Col. 1, lines 10-13)**, and wherein said passive transponder comprises a cable-type data field** (per SFF 8253, Annex D, e.g. Table D.1)**, and wherein said cable-type data field indicates that said communication link comprises a fiber channel communication link** (as shown in Table D.1 rows 8-12, and row 6).

4.4.4. Regarding claim 29, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said communication link further comprises a nominal throughput rate** (Table D.1, row 6)**, and wherein said passive transponder comprises a throughput data field, and wherein said nominal throughput rate is encoded in said throughput data field** (Table D.1, row 6 is encoded on the EEPROM memory module).

4.4.5. Regarding claim 30, the system of DeRolf, Gilliland, hitag, and Cecchi discloses **wherein said communication link further comprises a cable version number** (Table D.1, row 18)**, and wherein said passive transponder comprises a version data field, and wherein said version number is encoded in said version data field**(Table D.1, row 18 is encoded on the EEPROM memory module).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES R. MARANDI whose telephone number is (571)270-1843. The examiner can normally be reached on 8:00 AM- 5:00 PM M-F, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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